

WHAT IS CLAIMED IS:

1. A remotely monitored medication delivery system comprising:
at least one dosage containment unit defining an internal volume, each of the at least one
5 containment units having at least one moveable door defining an opening thereto;
a sensor in signal communication with each of the at least one moveable doors for
monitoring the status of said doors and producing a signal indicative of said status; and
a transmitter in signal communication with said sensor for receiving the signal from said
sensor and transmitting the signal to a remote receiver.
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2. The remotely monitored medication delivery system described in claim 1, wherein said
transmitter is activated to send the signal automatically when one of said sensors senses that one
of the at least one doors has been opened.
- 15 3. The remotely monitored medication delivery system described in claim 1, further
comprising a unique electronic system identifier, wherein said unique electronic system identifier
is transmitted to the remote receiver along with the status of said at least one door.
4. The remotely monitored medication delivery system described in claim 1, further
20 comprising a clock apparatus in at least indirect signal communication with said transmitter for
generating a date and time stamp, wherein said date and time stamp is transmitted to the remote
receiver along with the status of said at least one door.
5. The remotely monitored medication delivery system described in claim 1, further
25 comprising a global positioning system in at least indirect signal communication with said
transmitter for determining the geographical position of said system, wherein said position is
transmitted to the remote receiver along with the status of said at least one door.
6. The remotely monitored medication delivery system described in claim 1, further
30 comprising a data encryption device in at least indirect signal communication with said

transmitter, wherein any transmission is received and encrypted by said data encryption device prior to transmission by said transmitter.

7. The remotely monitored medication delivery system described in claim 1, wherein each of said at least one doors includes a unique electronic door identifier such that the unique electronic door identifier is transmitted to the remote receiver along with the status of said at least one door.

8. The remotely monitored medication delivery system described in claim 1, wherein the transmitter is a two-way pager telemetry system.

9. The remotely monitored medication delivery system described in claim 1, wherein the remote receiver is further connected to a database through a network, such that when said receiver receives a signal from the transmitter, the receiver converts said signal to an electronic mail and transmits said electronic mail to said database through said network.

10. The remotely monitored medication delivery system described in claim 9, wherein said receiver further comprises an encryption system such that said electronic mail is encrypted prior to transmission.

11. The remotely monitored medication delivery system described in claim 9, wherein said database is a secure database.

12. The remotely monitored medication delivery system described in claim 1, further comprising a digital thermometer in at least indirect signal communication with said transmitter for recording a patient's temperature, wherein said temperature can be communicated to the remote receiver through the transmitter.

13. The remotely monitored medication delivery system described in claim 12, further comprising a memory device for at least temporarily storing said temperature prior to transmission.

14. The remotely monitored medication delivery system described in claim 1, further comprising a data entry device in at least indirect signal communication with said transmitter such that data entered into said remotely monitored medication delivery system is transmitted to said remote receiver by said transmitter.

15. The remotely monitored medication delivery system described in claim 14, wherein the data entry device is an alphanumeric keypad.

16. The remotely monitored medication delivery system described in claim 14, wherein the data includes at least one predetermined code indicative of a patient's condition.

17. The remotely monitored medication delivery system described in claim 16, wherein the at least one predetermined code corresponds to a specific patient symptom.

18. The remotely monitored medication delivery system described in claim 16, wherein the remote receiver further comprises:

a programmable controller having a predefined alert table programmed therein in at least indirect signal communication with said remote receiver, wherein said alert table contains alert codes for each of the at least one predetermined codes; and

a second transmitter in at least indirect signal communication with said programmable controller,

wherein said programmable controller receives said data from said remote receiver, scans said data for at least one predetermined codes, compares said at least one predetermined code verse said alert table, and generates at least one alert code based on said alert table, and wherein said second transmitter is activated to send said data to at least one supervising medical attendant when indicated by said alert code.

19. The remotely monitored medication delivery system described in claim 18, wherein said second transmitter transmits said data through a medium selected from the group consisting of electronic mail, a page, or a hardwired monitor.

20. The remotely monitored medication delivery system described in claim 14, further comprising at least one internal memory device for at least temporarily storing data generated by said system at least one of either prior to or after transmission by said transmitter.

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21. The remotely monitored medication delivery system described in claim 1, further comprising at least one internal memory device for at least temporarily storing signals generated by said system at least one of either prior to or after transmission by said transmitter.

10 22. The remotely monitored medication delivery system described in claim 1, wherein the system comprises a plurality of dosage containment units.

23. The remotely monitored medication delivery system described in claim 22, wherein said plurality of units are arranged in a sequential order such that each of the plurality of doors except
15 a first door and a last door has one preceding door and one succeeding door, and wherein said system further comprises a mechanical interlock system engaged with said plurality of doors such that the interlock system locks each succeeding door until the door immediately preceding said succeeding door is opened.

20 24. The remotely monitored medication delivery system described in claim 1, further comprising a digital scale for recording a patient's weight in at least indirect signal communication with said transmitter such that the weight can be communicated to the remote receiver through the transmitter.

25 25. The remotely monitored medication delivery system described in claim 1, further comprising a digital blood pressure monitor for recording a patient's blood pressure in at least indirect signal communication with said transmitter such that the blood pressure can be communicated to the remote receiver through the transmitter.

26. The remotely monitored medication delivery system described in claim 1, wherein the system transmitter is designed to automatically transmit the signals indicative of the status of the at least one door at a predetermined time interval.

5 27. The remotely monitored medication delivery system described in claim 1, further comprising a programmable timer, wherein the timer may be programmed with at least one medication dosage schedule having at least one medication event.

10 28. The remotely monitored medication delivery system described in claim 27, further comprising an alarm in signal communication with said programmable timer such that when the at least one medication schedule indicates a medication event the alarm is activated to provide an indication to a patient.

15 29. The remotely monitored medication delivery system described in claim 27, further comprising a remote patient notification system in signal communication with said programmable timer such that when the at least one medication schedule indicates a medication event the remote patient notification system is activated to communicate the event to a patient remotely.

20 30. The remotely monitored medication delivery system described in claim 29, wherein the remote patient notification system comprises a communication system selected from the group consisting of a pager, a cellular phone, and a telemetry RF frequency.

25 31. The remotely monitored medication delivery system described in claim 27, further comprising at least one lock mounted on each of said at least one doors, wherein each said at least one lock is in signal communication with said programmable timer such that each said at least one lock is unlocked automatically when said programmable timer indicates the occurrence of a medication event.

30 32. A remotely monitored medication delivery system comprising: • ✓

at plurality of dosage containment units, each unit defining an internal volume and having at least one moveable door defining an opening thereto, wherein said plurality of units are arranged in a sequential order such that each of the plurality of doors except a first door and a last door has one preceding door and one succeeding door,

5 a mechanical interlock system engaged with said plurality of doors such that the interlock system locks each succeeding door until the door immediately preceding said succeeding door is opened;

a sensor in signal communication with the at least one moveable door for monitoring the status of said door and producing a signal indicative of said status, wherein each of said plurality
10 of doors includes a unique electronic door identifier such that the unique electronic door identifier is transmitted to the transmitter along with the signal;

a transmitter in signal communication with said sensor for receiving the signal from said sensor and transmitting the signal to a remote receiver, wherein said transmitter is activated to send the signal automatically when said sensor senses that one of the plurality of doors has been
15 opened;

an electronic system identifier uniquely indicative of the particular remotely monitored medical system, wherein said electronic system identifier is transmitted to the remote receiver along with the signal;

a clock apparatus in at least indirect signal communication with said sensor and said
20 transmitter, wherein the date and time is generated by the clock and transmitted to the transmitter for transmission to the remote receiver when the sensor indicates that one of the plurality of doors has been opened;

a data entry device in at least indirect signal communication with said transmitter such that data entered into said remotely monitored medication delivery system is transmitted to said
25 remote receiver by said transmitter; and

an encryption device in at least indirect signal communication with said transmitter, wherein any transmission is received and encrypted by said data encryption device prior to transmission by said transmitter.

30 33. The remotely monitored medication delivery system described in claim 32, wherein the data entry device is an alphanumeric keypad.

34. The remotely monitored medication delivery system described in claim 32, wherein the data includes at least one predetermined code indicative of a patient's condition.

5 35. The remotely monitored medication delivery system described in claim 34, wherein the at least one predetermined code corresponds to a specific patient symptom.

36. The remotely monitored medication delivery system described in claim 34, wherein the remote receiver further comprises:

10 a programmable controller having a predefined alert table programmed therein in at least indirect signal communication with said remote receiver, wherein said alert table contains alert codes for each of the at least one predetermined codes; and

a second transmitter in at least indirect signal communication with said programmable controller,

15 wherein said programmable controller receives said data from said remote receiver, scans said data for at least one predetermined codes, compares said at least one predetermined code verse said alert table, and generates at least one alert code based on said alert table, and wherein said second transmitter is activated to send said data to at least one supervising medical attendant when indicated by said alert code.

20 37. The remotely monitored medication delivery system described in claim 36, wherein said second transmitter transmits said data through a medium selected from the group consisting of electronic mail, a page, or a hardwired monitor.

25 38. The remotely monitored medication delivery system described in claim 32, further comprising a digital thermometer for recording a patient's temperature in at least indirect signal communication with said transmitter such that the temperature can be communicated to the remote receiver through the transmitter.

39. The remotely monitored medication delivery system described in claim 32, further comprising a memory device for at least temporarily storing said temperature prior to transmission.

5 40. The remotely monitored medication delivery system described in claim 32, further comprising at least one internal memory device for at least temporarily storing data generated by said system at least one of either prior to or after transmission by said transmitter.

10 41. The remotely monitored medication delivery system described in claim 32, further comprising a digital scale for recording a patient's weight in at least indirect signal communication with said transmitter such that the weight can be communicated to the remote receiver through the transmitter.

15 42. A method for remotely delivering medication comprising:
providing a remotely monitored medication system to a patient, said system including:
at least one dosage containment unit defining an internal volume, each of
the at least one containment units having at least one moveable door defining an
opening thereto,
a sensor in signal communication with each of the at least one moveable
20 doors for monitoring the status of said doors and producing a signal indicative of
said status, and
a transmitter in signal communication with said sensor for receiving the
signal from said sensor and transmitting the signal to a remote receiver;
filing each of said at least one dosage containment units with at least one medication
25 dosage; and
monitoring said remote receiver to determine the patient's compliance with a medication
schedule.